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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,752	11/08/2001	Yee Loy Lam	774-010704-US(PAR)	2535
2512	7590	03/26/2004	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			PETKOVSEK, DANIEL J	
			ART UNIT	PAPER NUMBER

2874

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/006,752	Applicant(s) LAM ET AL.	
	Examiner Daniel J Petkovsek	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment received 12/29/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the amendment received December 29, 2003. In accordance with the amendment, claims 2-4 have been amended. Claims 2-11 are currently pending in the application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-11 are rejected under 35 U.S.C. 103(a) as being unpatentable Zhou et al. US 2003/0044118 A1, and further in view of Lee U.S.P. No. 6,411,764.

Zhou et al. US 2003/0044118 A1 teaches (Fig. 6, [0025]-[0031]) an optical system (inherently including a support/bench/substrate for proper functionality) for coupling light between an optical device 620 and an optical fiber 630, comprising an integral spot size converter 610 (with upper waveguide with reducing taper and non-tapering lower waveguide) comprised of two waveguides dimensioned to couple light from one waveguide to another, in order to couple light from the device 620 to the fiber 630. It is inherent that in a device of this size, that an aligning feature is required and is essential to ensure proper coupling/precision between the initially separate device and the fiber (also see [0030], [0031]).

Zhou et al. '118 does not explicitly teach the bench has a unitary construction (i.e. one piece integrated means of the spot-size converter and alignment means). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make an

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optical bench including integral components (such as spot-size converter, alignment means, etc.) for the purpose of making the apparatus smaller and more efficiently functioning, such as making the device in one integrated substrate. The use of a one-piece construction instead of the structure disclosed in would be merely a matter of obvious engineering choice (In re Larson, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965)).

Zhou et al. '118 does not explicitly teach that the integral spot size converter has a vertically spaced distance between the two waveguides. Lee et al. '764 teaches (ABS, claims) a double core spot size converter for coupling light between an optical device and optical fiber that includes a spot size converter including a spacer region separating the two waveguiding regions.

Since Zhou et al. '118 and Lee et al. '764 are both from the same field of endeavor, the purpose of having a spacer region (or cladding) in the integral spot size converter of Lee et al. '764 would have been recognized in the pertinent art of Zhou et al. '118.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use a number of well known spot size converters (such as the converter containing a spacer/cladding region between the waveguides of Lee et al. '764) for the same purpose disclosed by Zhou et al. '118, coupling light between an optical device and an optical fiber.

Regarding claim 2, the system is silicon based. Regarding claims 6-10, alignment features are inherent or described in listed paragraphs of Zhou et al. '118. Regarding claim 11, Zhou et al. '118 does not explicitly teach that the optical device is a semi-conductor edge emitting waveguide device. Since semi-conductor edge emitting waveguides are well known

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optical elements in the art, it would have been obvious to combine any emitting waveguiding device to the alignment apparatus of Zhou et al. '118 for efficient coupling of an optical device to an optical fiber.

Response to Arguments

3. Applicant's arguments filed December 29, 2003 have been fully considered but they are not persuasive. Applicant traverses the rejections to claims 2-11 by stating that Zhou et al. '118 does not disclose or suggest the use of an integral spot-size converter in at least a portion of unitary construction. This argument is not persuasive, as fully addressed in the 35 U.S.C. 103 (a) rejections of claims 2-11 above. It would have been obvious to a person having ordinary skill in the art to have "at least a portion of unitary construction" to either integrate, make smaller, or make more efficiently the device of Zhou et al. '118.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure with respect to the state of the art of integrated spot-size converters: PTO-892 form references A and B.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

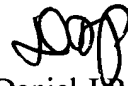
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J Petkovsek whose telephone number is (571) 272-2355. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel J Petkovsek
Examiner
Art Unit 2874

March 17, 2004



Brian Healy
Primary Examiner